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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,460	11/12/2003	Dae-Gyu Kim	SAM-0497	6749

7590 05/25/2004

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EXAMINER

NGUYEN, HAI L

ART UNIT PAPER NUMBER

2816

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

10/706,460

Applicant(s)

KIM ET AL.

Examiner

Hai L. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Fig. 1 in the present application, in view of Miller (US 4,959,557).

With respect to claim 6, the admitted prior art in Fig. 1 shows a clock circuit a semiconductor chip pad (10); an electrostatic protective circuit (MP1, MN1); and a square wave generating circuit (INV1, Rfb, 20) for generating a square wave at an output terminal thereof based on an input signal received at the semiconductor chip pad. Fig. 1 of the admitted prior art meets all the claimed limitations, except for a capacitor (C1 in instant Fig. <sup>4</sup>2). Miller teaches in Fig. 6 a clock circuit having a capacitor connected between the resistor (44) and the square wave generating circuit (the circuit between node 75 and resistor 51) as recited in the claim. Therefore, it would have been obvious to one of ordinary skill in the art at the time of

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applicant's invention was made to implement the capacitor taught by Miller in the admitted prior art (Fig. 1) for the advantage of being able to prevent low-frequency and DC components of the oscillating input signal from being applied to the input of the square wave generating circuit.

With regard to claims 7, 8, and 10, the prior art also meets the recited limitations in these claims.

Claims 1 and 2 are similarly rejected; note the above discussion with regard to claim 6. Furthermore, the resulting limitations "a square wave having a stable duty is generated at an output of the square wave generating circuit, irrespective of variance in environmental conditions, wherein the environmental conditions include at least one of temperature, process and supply voltage" will also be met by the references. Since the claimed structure is fully met by the prior art of record (under 35 USC 103), the resulting function claimed by applicant will be inherent, i.e., if the claimed structure is obvious, then the recited function will be inherent in the reference as modified above.

With regard to claims 3 and 4, the prior art also meets the recited limitations in these claims.

4. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Miller, as applied to claim 6 above, and further in view of Gutierrez (US 6,566,971).

With regard to claim 9, the above discussed the circuit of the references meets all of the claimed limitations except for the capacitor is the metal-insulator-metal (MIM) type of capacitor.

Gutierrez teaches in Fig. 3 a circuit comprising the MIM capacitors as recited in the claim.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's

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invention was made to implement the capacitor by using the metal-insulator-metal (MIM) type of capacitor taught by Gutierrez in order to minimize series resistance and, in addition, the MIM capacitor is much more linear as compared to other types of capacitor.

Claim 5 is similarly rejected; note the above discussion with regard to claim 9.

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For example, Taylor (US 6,091,272) is cited as of interest because it discloses a low power clock squarer with tight duty cycle control.

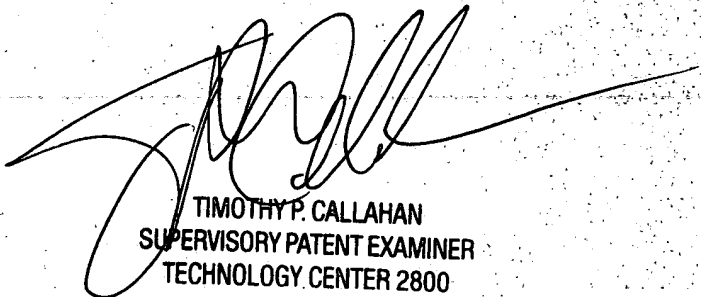
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

HLN 

May 6, 2004

  
TIMOTHY P. CALLAHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800